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MEN AND IDEALS

(Intended as an Inspirational Text Book for
Intermediate Classes)

EDITED BY

C. MAHAJAN, M.A. (OXON.)

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PREFACE

It has been felt for some time that Indian students who appear in the Intermediate Examination do so without being sufficiently grounded in the life story of their own leaders and their wise teaching. Familiarity with the great men of other countries is good, but to be a stranger to the great men of one's own country is inexcusable. This book, therefore, has been prepared with the set aim of making Indian students familiar with some of the greatest names of the world, while at the same time recalling to their mind the example and wise teaching of their own great men. These latter include leaders, both dead and living.

The lessons are arranged in a graded order. The less familiar names come first and then the more familiar ones. As far as possible names included in the book cover a wide range and are spread over a wide field. They include great adventurers, explorers, writers, and scientists. Their life story is told in a way which is likely to hold the attention of the student for long, and thus not only to grip his interest, but also to gradually inspire him to noble effort.

It is confidently hoped that the book will be popular among the students for whom it is written.

—AUTHOR

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1. "ADMIRAL OF THE OCEAN WIDE!"

I

Young Christopher Columbus was fortunate enough to live in the beautiful old sea-port of Genoa. He could wander along the quay and listen to the sailors as they talked of the far lands they had visited, or he could sit for hours gazing out over the blue waters of the bay ^{खाडी} dreaming dreams of the wide ocean, and of distant unknown lands. आदर २३
६
(००) ६५

His father was a wool spinner, hard-working but not poor; and when he saw his eldest boy was clever and studious, he determined to give him, what was not common in those days, a good education.

So young Columbus went to Pavia. There he studied geometry, geography, ^{आदर २३} astronomy, ^{१२५१} astrology, and navigation, for his dreams of the future were always dreams of the sea. १२५१

At fourteen he returned home, but not for long. He soon got work on a trading vessel, sailing along the shores of the Mediterranean and calling at many ports. Thus he learnt the art of navigating a ship and in his spare time he continued आदर २३

his study of geography and astronomy, and became very clever at the drawing and engraving of maps and charts.

His mind was ever on the sea and the stars, and he cherished a secret dream of one day sailing out "beyond the sunset".

One of his voyages brought Columbus off the coast of Portugal. Near Lisbon the vessel took fire; he threw himself into the sea and supporting himself on an ^{oar} with one hand, and swimming with the other, he managed to reach the shore.

lived So he settled down in Lisbon, and gradually he began to be known as the maker of very accurate maps, charts, and globes. He married, had a little son, Diego, and spent some very happy years there.

But his mind was not at rest; he dreamed of sailing on unknown seas, and as he turned his globes and dotted his charts, ^{his} ~~his~~ ^{imagination} ~~was~~ ^{seized} by the ^{immense} ~~immense~~ ^{expanse} of water ^{stretching} ~~stretching~~ away to the west. He had no idea how great it really was, and he was fired by the thought that perhaps, as the world was said to be round, one could reach India and the East by sailing to the West, across the wild unknown Atlantic.

Columbus saw, after a time, that he could expect no help from Portugal. His wife was dead.

so taking his little son Diego by the hand, he set out for Spain, where he hoped to interest the King and Queen, Ferdinand and Isabella, in his plans.

Tired ^{थीने पर} Weary and footsore, the tall powerfully built man and the little boy of nine or ten tramped the ^{चले} sun-scorched roads of Andalusia. At last they came to a monastery; the ^{मठा} monks gave them shelter and food and became much interested in them. The prior, Juan Perez, agreed to look after Diego while his father was away, and he gave Columbus letters of introduction to the Spanish court and furnished ^{गाने} him with a mule and a guide and money for the journey. ^{सफर}

But unfortunately for Columbus, Ferdinand and Isabella were very busy trying to drive the Moors from Spain; they had no time to think of possible lands far away across an almost impossible sea. ^{वो जानते ही}

So again Columbus had to ^{भार} suffer heart-breaking delays: he was poor and almost unknown but he did not despair. He again earned a scanty livelihood by making globes and maps, and this trade brought him into contact with a few distinguished ^{प्रसिद्ध} men, who were astonished at the grace and dignity and knowledge of the map-maker, and became his firm friends.

One of these friends at last obtained for him an audience with the King and Queen. They were kind and interested, but the Council was once more against him.

Years passed before he obtained another audience, and then he demanded the title of admiral, and the rank of viceroy over all lands he should discover. The King's councillors scornfully refused his demands, so Columbus determined to wait no longer, and mounting his mule, he set out to offer the empire of his dreams to the King of France.

Queen Isabella was distressed when she heard that the adventurer whom she admired so much had gone. She urged the King to help him, and when he again refused she exclaimed, "Well, I will undertake the enterprise alone. I will pawn my jewels to meet the expenses."

So a messenger was sent after the fugitive, who returned gladly to the service of Isabella. But the tiresome delays were not yet over.

In spite of the orders of the court, owners of vessels refused to allow their ships to go to what they considered certain destruction: seamen refused to sail on so long and mysterious a voyage, and many of them deserted after they had enlisted.

The prior, Juan Perez, again came to the ^{रुद्धकारा} rescue, and persuaded three friends of his, wealthy mari- ^{मार्गिक} ners, to provide Columbus with ships. They were ^{दौर्गत} so much impressed by the faith and zeal of the ad-
 venturer that two of them decided to sail with him on his perilous voyage. At last, in August 1492, three vessels, the Santa Maria, the Pinta, and the Nina, were ready to put to sea.

And poor little vessels they were for such a ^{कमजोर} hazardous voyage—narrow little trading craft, old ^{स्कि} and weatherbeaten. Only the Santa Maria, on which Columbus sailed, was decked; the other two ^{डबल} were open boats. What ^{जुनवान} stout hearts and valiant ^{वीर} courage to face the unknown leagues of ocean in ^{जुनवान} such frail craft!

The winds ^{पुश्पि} were favourable and carried the little fleet ^{तुम्ही} rapidly westward, so that for a time all went well. Soon, however, the compass, Columbus's only guide on these ^{उपगत} uncharted waters, began ^{उपगत} to behave ^{अवगत} strangely, and became, to the Admiral's ^{अवगत} dismay, quite unreliable. This fact, for which Columbus could find no explanation, worried the ^{अवगत} sailors terribly, and for a time they lost heart.

Luckily, soon afterwards, some small land birds were seen, and some tufts of grass and rock plants were found floating on the water. The sailors

6 got courage

MEN AND IDEALS

Don't

plucked up courage, for land, they felt sure, could not be far away. *was*

But their troubles were not over. They ran into a sea where the weeds were so thick that there was a danger of the ships being held fast in them. The wind dropped, and they were driven by currents which they were unable to avoid. They saw *extra* great whales, unknown creatures, which they feared, waited to devour them. Land, which they thought they had sighted, disappeared as they approached. Their bread and water were beginning to fail. Terror seized the men—angrily they crowded round the mast and ordered the pilots to put back—why should they all ^{Die} perish to satisfy the whims of one man? They would throw him into the sea—this mad man who was leading them to certain death. *isn't it*

Coolly Columbus faced them, and quelled their mutiny by his calm courage.

Fortunately the signs of land increased and became more certain: a twig of hawthorn blossom, a carved stick, a bird's nest full of eggs, were seen floating on the waves—land could not be far away.

As they drew nearer, they could see little huts dotted about among the trees, and groups of brown-

skinned natives gazing in astonishment at the white-winged ships that had appeared in the night.

Dressed in his robes of state, he entered a little boat and was rowed to the land. As soon as he stepped ashore, he fell on his knees and thanked God for his mercy. Then he baptized the land with the name of Christ—San Salvador, and took possession of it in the name of the King and Queen of Spain.

Columbus called the natives—a gentle and friendly people—Indians, for he was sure he had reached an outpost of India.

II

Impatient to reach the land rich in gold and precious stones which they expected to find, the adventurers soon left the island, and sailing south reached Cuba. Here they found a most beautiful country but no gold. They next reached another large island which Columbus called Hispaniola (now San Domingo). Here, owing to the carelessness of the man at the helm, the *Santa Maria*, which had braved the wide ocean, ran aground, and was soon a total wreck.

The natives of the Island, who were of a very fine type, were friendly and helpful.

Columbus now thought he must be quite near the golden lands of the East, so he decided to return home with his good news.

So in the little fort the friendly natives had allowed him to build, he left a few of his men, giving them instructions to explore the neighbourhood, while he, laden with gifts, set off for Europe.

The journey home was a terrible one. The vessels made little headway against the contrary winds, and as they neared the Azores they were tossed like corks from one huge wave to another, and tremendous thunderstorms added to the terror and misery of the men. The two ships lost sight of each other, and each thought the other sunk beneath the waves.

Even Columbus lost heart, expecting every moment that his little vessel with its torn sails and broken rudder would be swamped. He had risked his life freely, but he did not wish the new knowledge, which he had just gained, to perish. So while the storms raged and the frightened men grew more and more threatening, Columbus sat in his little cabin and wrote out several accounts of

his voyage. These he sealed up in rolls of wax or cedar cases and cast them into the sea, hoping that they would be carried ashore and so preserve the knowledge of his discoveries.

The little *Nina* could not last another day, he was certain, but as that other day dawned there was a glad cry of "Land Ho!" They drew near a little island, and though the Portuguese people were not friendly, Columbus managed to repair his ship a little and then set out on the last stage of his journey home.

How he must have recalled, as he cast anchor in Palos harbour, the sullen looks and the curses which had marked his departure! How different his return! The crowd, frantic with joy and pride, rushed into the water to carry him triumphantly ashore. But the first thing that Columbus did was to walk barefooted to the monastery of his old friend, Juan Perez, there to return thanks for his safe voyage and for the glory which God had allowed him to win for Spain.

Having given thanks to God, the explorer made his way to Barcelona to lay his discoveries at the feet of his King and Queen. His entry into the city, seated on a magnificent horse and attended by the nobility of Spain, was that of a prince.

Ferdinand and Isabella rose to their feet to greet him and made him sit on a level with themselves.

It was not long before Columbus sailed again for the New World, with a fleet of seventeen vessels, and this time he had no difficulty in getting together his followers.

The voyage was a good one, but as soon as land was reached, trouble began. As the vessels approached Hispaniola, Columbus fired a salute, but no reply came back from the Spaniards he had left in the little fort.

(Great was his dismay, on going ashore, to find the fort destroyed, the guns ^{covered} buried in the ruins, and the ^{bones} bones of the Spaniards bleaching in the sun.)

Columbus then sailed on and founded the town of Isabella, but he constantly had this trouble to face. Most of his followers were so greedy for gold, that they would not settle down as he wished them to do, nor would they treat the natives, who were really a very fine and peaceable race, fairly.

Columbus tried to make the Spaniards treat the natives decently, and as a result some of his own countrymen turned against him and sent false reports home to Spain. The explorer was ordered to return to Europe, practically as a prisoner to give an account of himself.

After many insults and delays, the friendship of Isabella procured his release, and he was again given ships to sail to the West. He changed his course in this voyage, discovered Trinidad and landed near the mouth of the Orinoco. Thus he spent at least one night on the mainland of the continent, which, however, was not to bear his name.

He then made his way to Hispaniola, where, during his absence, affairs had become still worse between Spaniards and Indians. Again his countrymen complained of him, and again he was sent home in chains.

But when he arrived in Cadiz every one was indignant that this fine old man who had presented Spain with a new empire should be repaid for his service with such disgrace. Queen Isabella wept for him and restored him at once to favour.

Though an old man of nearly seventy he could not rest, and in May 1502 he set out for the fourth and last time for the New World. He made again for Hispaniola, but the governor refused to allow him to enter though a storm was brewing.

He then turned to Honduras, but after more trouble with the Indians he was forced to make for Trinidad, where his vessels were wrecked on the shores of an unknown bay.

For sixteen months he remained here, sick and short of food, before the Governor of Hispaniola sent vessels to his relief. After a short stay he left the island for Europe. He arrived in Spain with his brother and his son, too ill to travel, almost too poor to pay for a lodging.

His old friend, Queen Isabella, lay dying: the King did not keep his promises, and the grand old man was allowed to die in loneliness and poverty. He never knew that he had discovered a new continent, but he had the satisfaction of a life nobly lived, a duty well done.)

m 2.

2. SHAKESPEARE

Shakespeare lived right ^{his whole life was spent} ~~through~~ ^{choosing that} those excit- ^{time} ~~ing~~ times when the Dutch people under their great leader, William the Silent, and the English people under their great queen, Elizabeth, were resisting ^{fish} the attempts of the Spaniards under King Philip, to crush them and force them to remain Catholics. He lived through the times when reports were continually arriving about discoveries of new land on the other side of the world. Boys who lived in the sea-coast towns, especially, must have frequently ^{night} heard sailors, back from voyages to distant lands, telling of the wonderful adventures to be had, the ^{are 13} ~~marvellous~~ ⁷¹² sights to be seen, the gold and treasures to be won.

Life in the Middle Ages must have been very dull and hard. It is difficult for those who live in modern towns to ^{to feel} realize this. Those who have lived in an Indian village, far away from railways and post-offices and newspapers, can have some idea. From the time of the Renaissance things began to change; first of all in the towns, of course. People began to take an interest in what was going on around them, and in other countries. They

10/11 began to seek for 'news', they began to want more excitement, more entertainment. In response to this demand came, first, the *theatre*; then *novels* (which means 'stories of new things'); and, later, *newspapers*.

12/11 Very little is known ^{correctly} exactly about the life of William Shakespeare. (He was certainly a mischievous boy,) for it is recorded that (when he was hardly twenty-one years old he took part in a poaching expedition and had to run away from his native place,) Stratford, in order to avoid getting into serious trouble with the authorities. (He went to London, and began to look round for a way of earning his living.) (Theatrical shows had just begun to be popular at that time, and the young man determined to try his hand at being an actor.) He managed to get some small parts, and succeeded fairly well.) (Then he began to think of trying to provide the theatrical companies with better plays to act.) The plays of the time were often very crude. The people who went to the theatres were mostly not very cultured people. (They came either to get a good laugh out of the jokes and antics of the clown, or to be thrilled at the sight of stage-fights, murders or other violent happenings. (Shakespeare was a poet—he was already busy putting

into English verse two stories from Roman literature which pleased him—but he was much more than a poet, he was an ^{specially} extraordinarily observant and clever man.) He saw that merely learned or poetical plays would never succeed in attracting the audiences of the time. On the other hand, he knew that the plays he was taking part in, were mostly rubbish, and as a poet he longed to create something better. (So he began by trying to make plays which would meet both needs. He took exciting or amusing stories from novels (which were just then becoming popular), from history, or from legend. ^{known} He re-shaped ^{change} them—almost out of ^{known} recognition sometimes—introducing new characters and improving the story. ^{off} (Thus by his ^{we} genius he created plays which not only attracted and amused the audiences of his time, but which contained poetic beauty and philosophical truth which have made them everlasting in their appeal.) ^{permanent}

He was twenty-seven years old when he produced his first important play, *Love's Labour Lost*, and for the next twenty years he was busy writing. At least thirty-five plays, besides a number of short poems, flowed from his pen during that time. ^{known}

The extraordinary thing about Shakespeare's plays is that although they mirror the life and

thoughts of the people of his time, they have not lost their appeal for us in modern times. Also, it is not Shakespeare's countrymen alone who delight in his work; his plays have been translated into almost every language, and they are still acted and enjoyed. Why is this? (It is because Shakespeare depicted in his plays not simply interesting incidents from history, with fine speeches and amusing jokes, but he ^{expressed = described} revealed the struggles and conflicts which go on in the minds of all men and women in all ages.) For example, in his great tragic play, *Julius Cæsar*, he has shown not simply the murder of a hero by a ^{a small party} band of ^{असंख्य लोग} conspirators. There he has made us feel the different motives which were in the minds of the conspirators in doing that dread-^{Fearful} ful deed—the jealousy of some, the cold fanaticism^{राक्षसी} of others, and the terrible struggle between love for his friend and duty to his country which went on in the mind of Brutus, the greatest of them all.

(Nowadays, when we see plays acted in a theatre, there are ^{ordinarily} usually ^{position} painted screens and curtains to make the scenes look as ^{संभवित} realistic as possible. The actors are dressed in the ^{dress} costumes of the time at which the events shown in the play are supposed to have happened. In Shakespeare's days there was nothing of this kind; there was no painted scenery.

The stage was simply a platform with a roof over it and a gallery at the back with plain curtains behind and at the sides, under cover of which the actors could stand before they came on to say their parts. The dresses were simply the usual costume of Shakespeare's time. The play thus depended for its effect ^{wholly} ^{entirely} upon the words spoken by the actors, and upon their skill. It is a ^{full of sad emotions} further proof of Shakespeare's greatness that so large a number of his plays contain scenes—some tragic, some comic—and passages of poetry, which are unforgettable, and which people of every civilized country, in all ages from the time of Shakespeare down to the present, have loved to remember and to repeat. mp. (His work is truly 'not of an age but for all time,' and his footprints, which did not seem to the people of his own day nearly so important as those of many a courtier or petty official, have left such lasting marks upon the sandy road of man's progress in the understanding of his own nature and actions, that he may truly be called 'the world's immortal poet'.)

The word 'renaissance' means 'rebirth', and this age which we call the Age of the Renaissance was indeed a wonderful time in which to live. It was a time when Western Europe was being reborn,

सामान्य शब्दों में

after the long darkness of the feudal times. Shakespeare's plays are full of references to the new wonders—the discoveries of new lands, new materials, new foods and drinks, new instruments and ways of doing things, new thoughts and ideas, and new ways of expressing them.

3. FROM SAIL TO STEAM

The first boat was probably a log of dry wood that had floated by chance within the reach of an exhausted swimmer. Gradually it took the form with which we are still familiar: the dug-out and the coracle of the savage people. The dugout is a simple one-man boat formed from the trunk of a tree hollowed out by cutting-tools, or by means of fire. The coracle is much lighter; it is made like a basket and covered with the hide of an animal. It is generally carried on the back, and used as soon as the man gets into deep water.

Boats were gradually improved by planks of wood being added to the side of a dug-out, till the comparative big merchantmen of the Middle Ages were reached. Nothing new in principle had been discovered by man. All the alterations were in size, in the number of oars used, and the introduction of sails to take advantage of the power of the wind. The use of a rudder to steer the boat in any desired direction has been there from the earliest times. It was probably the result of Man's observation of the movements of fishes and other water animals.

The Romans had the most perfect ships known to the ancients. There were two types of ships in common use among them: the galleys,^{ships} and the merchant ships. The galleys were used in war, or for swift^{fast} travelling. They were long narrow boats with banks of oars-men sitting one above the other along the sides of the boat. Sails were also used when the wind was favourable. But the galleys were not at ^{dependent upon} the mercy of the winds. Some of the war-galleys were manned^{rowed} by two, three, or even four lines of rowers on each side of the boat, the highest oars were very long and heavy requiring several men to each oar. The rowers were generally slaves condemned to the galleys for life. They were under the supervision of an overseer who stood above, giving the time, and using the whip pretty frequently on the backs of the poor galley slaves whose lives were considered of no value at all.

The Roman merchant vessels had no oars. They were driven by sails only, and the rudder was on the side, and used very much in the same way as a paddle by the boatmen in Kashmir. The modern sailing boat is more or less a development in detail and principle of these Roman vessels. Nothing really remarkable was, however, achieved till the third decade of the nineteenth century.

when steam was used to replace the wind as a driving force. And yet so much had been done already by the sailing boat and the bravery of seamen of all countries that the introduction of steam has been able to add only speed and comfort to travelling on the oceanic highways of the world.

From almost prehistoric times Hindus and Arabians in the East, and Phœnicians in the West held the mastery of the sea. There is good reason to believe that parts at least of America were known to the Hindu sailors. It is certain that Phœnician sailors sailed round Africa long before Diaz or Vasco da Gama ever thought of a sea-route to India.

Because of their great aptitude for trade and navigation the Phœnicians sailed far and wide across the seas. They founded colonies on the African coast, of which Carthage became the wealthiest, and the most powerful. They crossed the straits of Gibraltar, known then as the Pillars of Hercules, founded a colony in Cadiz in Spain, and made their way to the tin mines of Britain.

With the fall of Carthage the Phœnician power declined. With their decay seems to have been lost much of the knowledge of ship-building and navigation known to them. We have already seen the two types of Roman ships. For centuries

afterwards all the progress was along the line of these two types; the galleys were used mostly as men-of-war, and the sailing ships as merchantmen. The galleys employed sails, but did not depend solely on them. Later on in the days of the rising powers of Europe, after the extinction of the city-republics of Italy, much impetus was given to navigation by the rivalry of English, Spanish and Dutch sailors on the high seas.

The immediate cause of this renewed activity was the closing of the land route to India. The trade to India with its reputed gold and jewels, its silks and rare spices, was a source of prosperity which the great nations of Europe aspired to capture.

It is noteworthy that most expeditions ventured only a little farther from lands already known. They penetrated into the unknown by inches as it were. There was a general belief among all sailors that a route to India could be found by sailing Westward. But no one had the courage to launch their boats into the Great Unknown. It was reserved for the dauntless courage and ardent faith of Columbus to start straight for the West with only three vessels, the biggest of which was no bigger than a modern river barge.

With the discovery of America, navigation progressed very rapidly. Within thirty years Vasco da Gama had discovered the sea route to India round the Cape of Good Hope, Magellan, the greatest of early explorers, had sailed round the world with a mutinous crew of sailors. Under Queen Elizabeth, Drake, and Hawkins, and Frobisher proved themselves as daring as the sailors of Spain or Portugal. All these years there had been a steady improvement since Roman times upon existing models of ships. The indomitable spirit of sailors bent upon facing storms and rough seas discovered new ways and devices to conquer the fury of the elements. The principal contribution of the sixteenth century to man's conquest of the sea was a crystallised tradition of seamanship which still inspires the best naval exploits of countries like England.

Between the sixteenth and nineteenth centuries Europeans continued their voyages of discovery. All the lands in the Pacific and Atlantic oceans have been gradually discovered and colonised. The discovery of the Australian group of islands by the English sailor, Captain Cook, was quite as important though not half as sensational as the discovery of America by Columbus.

In navigation, as in other branches of human knowledge, the nineteenth century is an age of wonder. The huge monsters of the sea that now ply from port to port carrying thousands of passengers, or hundreds of tons of cargo, could not ever have been conceived of a century ago. Vessels like the *Bremen*, the *Aquitania*, or the *Majestic* are dreams of luxury and comfort. Their tonnage ranges from forty to fifty thousands tons. They accomplish the voyage between Europe and America in four to five days. They carry on board their ships all modern comforts and amusements known to man.

It is not possible to speak here of the different types of ships now being built in the dockyards of the world. There is a type for every imaginable purpose of peace and war. From the fastest motor boat driven by the late Sir Henry Seagrave at very nearly a hundred miles per hour, to the heavy cargo boats that carry the produce of Australia to the factories of Lancashire; from the fast cruiser to the mighty dreadnought, there are more varieties than can be catalogued. There are no limits imposed upon the inventive genius of man, and in ship-building the only limits are the resources of a country. Because all these vessels, big and small, are

very expensive in the making, the cost of a modern passenger liner would run into several million pounds. For every extra mile of speed beyond a certain limit which it is desired to achieve the cost of constructing a ship is almost doubled.

But more interesting in many ways than these luxury boats are the ships used for carrying on the trade of the world. A big cargo boat is like a huge box in which every inch of space is of value. But the difficulty is to make this box strong enough. If it is strengthened horizontally by beams as in a roof, the beams are in the way of loading and unloading. If this strength is not given cross-wise, there is danger that the sides of box might collapse under the great pressure of water. All the experience and skill of ages have gone to the making of these cargo boats. There is a separate type for every kind of cargo. There is, for example, the ship which has come into existence to meet the requirement of trade in frozen meats, eggs, and fruits. It is provided with huge chambers that keep an equal temperature even when the ship is passing through the tropics on a hot summer's day. It is provided with refrigerating machinery, that is to say, with machinery which creates artificial coldness. If this machinery were to fail for even so

short a time thousands of pounds' worth of goods will be wasted. This machinery is not the only one that comes into play. Not only must the cargo chamber be kept at an even cool temperature, but it must also be insulated against external heat so that the burning rays of the sun outside have no effect on it.

Of the ships of war the most interesting is the submarine. A submarine looks very much like a cigar with a flat surface on which officers and men can take their stand when the ship is only partially under water. There is a small turret which rises above the flat surface. It is called the conning tower. This is the only way for the crew to get into the ship. By the side of the conning tower there is a curious funnel-like thing; this is the periscope, the eye of the submarine. The periscope is a long tube with mirrors and lens arranged so as to catch the image of the objects all around. When the submarine is concealed under the water, the top of the periscope just projects above the water, and catches the image of objects as far as thirteen miles.

A submarine has engines to make it go. The fuel used is not coal but gasoline, so that there may be no smoke to attract unnecessary attention.

When the submarine takes a drive into the water the gasoline engines are stopped so that the inner atmosphere of the submarine may not lose its oxygen by combustion. Storage batteries are then brought into play, and the submarine runs by electric power. The crew breathes the oxygen which is gradually let off from cylinders of compressed air.

The submarine is primarily a means of attack; for defence it carries only a small 6-inch gun with a fairly long range. For really effective defence it will have to carry several and bigger guns on its deck. Then it would be too heavy to move about with speed required to chase all kinds of craft on the sea. It has not only need for speed, but also for quiet noiseless motion. Its only safety lies in stealth, as the merest touch from another ship will break open its thin steel shell and send it to destruction.

The deadly weapon with which a submarine attacks its victim is called a torpedo. The torpedo is itself a small submarine; only it has no crew. It works automatically; it is provided with a nose cap, and a pointed needle. The nose cap gradually unscrews itself, and by the time the torpedo reaches its target, the enemy ship, the needle is laid bare.

As soon as it comes in contact with the hard surface of the ship's side, the needle explodes the powder contained in the torpedo, and blows up the mightiest man-of-war. The whole success of this operation depends on the accuracy of aim with which the torpedo is let off from its hole in the side of the submarine.

You have seen how with the discovery of steam as a form of energy, man has been able to bring about a complete change in the means of transport and travel. Distance has neither fear nor charm for him now. All places of the earth are linked together: there is nothing strange or unfamiliar. Markets of India offer the fruit of the West fresh from the plant, as the markets of the West put forth for sale all the rare products of the East. The world is now one long bazaar, and men go about in it buying and selling with perfect ease and satisfaction.

आगे हूँ

4. BHARATMATA

As I grew up and became engaged in activities which promised to lead to India's freedom, I became obsessed with the thought of India. What was this India that possessed me and beckoned to me continually, urging me to action so that we might realize some vague but deeply felt desire of our hearts? The initial urge came to me, I suppose, through pride, both individual and national, and the desire, common to all men, to resist another's domination and have freedom to live the life of our choice. (It seemed monstrous to me that a great country like India, with a rich and immemorial past, should be bound hand and foot to a far-away island which imposed its will upon her. It was still more monstrous that this forcible union had resulted in poverty and degradation beyond measure.) That was reason enough for me and for others to act.

what is the soul of India.

But it was not enough to satisfy the questioning that arose within me. What is this India, apart from her physical and geographical aspects? What did she represent in the past; what gave strength to

her then? How did she lose that old strength? And has she lost it completely? Does she represent anything vital now, apart from being the home of a vast number of human beings? How does she fit into the modern world? ^{inspired}

India was in my blood and there was much in her that ^{naturally} instinctively ^{produced joy} thrilled me. And yet I approached her almost as an ^{Foreign} alien critic, full of dislike for the present as well as for many of the relics of the past that I saw. ^{moment} To some extent I came to ^{mental his size} ^{small} know her via the West and looked at her as a friendly westerner might have done. I was eager and anxious to change her outlook and appearance and give her the ^{dress & cast} garb of modernity. And yet doubts rose within me. Did I know India, I who ^{piece - fragment} presumed to scrap much of her past heritage? (There was a great ^{deal} that had to be scrapped, that must be scrapped; but surely India could not have been what she undoubtedly was, and could not have continued a cultured existence for thousands of years, if she had not possessed something very vital and enduring, something that was worthwhile.) What was this something? ^{value = खलनाम}

I stood on a ^{दीर्घ} mound of Mohenjo-daro in the Indus Valley in the north-west of India, and all around me lay the houses and streets of this ancient

surrounding objects

Highly improved

city that is said to have existed over five thousand years ago. and even then it was an old and well-developed civilization. ('The Indus civilization,' writes Professor Childe, 'represents a very perfect adjustment of human life to a specific environment that can only have resulted from years of patient effort. And it has endured; it is already specifically Indian and forms the basis of modern Indian culture.') Astonishing thought: that any culture or civilization should have this continuity for five or six thousand years or more; and not in a static, unchanging sense, for India was changing and progressing all the time.) She was coming into intimate contact with the Persians, the Egyptians, the Greeks, the Chinese, the Arabs, the Central Asians, and the peoples of the Mediterranean. But though she influenced them and was influenced by them, her cultural basis was strong enough to endure. What was the secret of this strength? Where did it come from?

I read her history and read also a part of her abundant ancient literature and was powerfully impressed by the vigour of the thought, the clarity of the language and the richness of the mind that lay behind it. I journeyed through India in the company of mighty travellers from China and

western and central Asia who came here in the remote past and left records of their travels. I thought of what India had accomplished in eastern Asia, in Angkor, Borobudur and many other places. I wandered over the Himalayas which are closely connected with old myth and legend and which have so much influenced our thought and literature. My love of the mountains and my kinship with Kashmir especially drew me to them, and I saw there not only the life and vigour and beauty of the present but also the memoried loveliness of ages past. The mighty rivers of India that flow from this great mountain barrier into the plains of India attracted me and reminded me of innumerable phases of our history. The Indus or Sindhu, from which our country came to be called India and Hindustan, and across which races and tribes and caravans and armies have come for thousands of years; the Brahmaputra, rather cut off from the main current of history but living in old story, forcing its way into India through deep chasms cut in the heart of the northeastern mountains, and then flowing calmly in a gracious sweep between mountain and wooded plain; the Jumna, round which cluster so many legends of dance and fun and play; and the Ganga, above all the rivers of

India, which has held India's heart ^{बोधि, धर्म} captive and has drawn uncounted millions to her banks since the dawn of history. The story of the Ganga, from her source to the sea, from old times to new, is the story of India's civilization and culture, of the rise and fall of empires, of great and proud cities, of the adventure of man and the ^{search - quest} quest of the mind which has so occupied India's thinkers, of the richness and fulfilment of life as well as its denial and renunciation, of ups and downs, and growth and decay, of life and death. ^{संसार}

I visited old ^{Buildings} monuments and ^{Destroyed buildings} ruins and ancient ^{कुहर} sculptures and frescoes—Ajanta, Elora, the Elephanta Caves and other places—and I also saw the lovely buildings of a later age in Agra and Delhi where every stone told its story of India's past.

In my own city of Allahabad or in Hardwar I would go to the great bathing festivals, the *Kumbh Mela*, and see hundreds of thousands of people come, as their ^{पूजा} forbears had come for thousands of years from all over India, to bathe in the Ganga. I would remember descriptions of these festivals written thirteen hundred years ago by Chinese pilgrims and others, and even then these *melas* were ancient and lost in an unknown anti-

quity. What was the ^{great} tremendous faith, I wondered, that had drawn our people for untold generations to this famous river of India?

^{was}

These journeys and visits of mine, with the background of my reading, gave me an insight into the past. To a somewhat bare intellectual understanding was added an emotional appreciation, and gradually a sense of reality began to creep into my mental picture of India, and the land of my forefathers became peopled with living beings, who laughed and wept, loved and suffered; and among them were men who seemed to know life and understand it, and out of their wisdom they had built a structure which gave India a cultural stability which lasted for thousands of years. Hundreds of vivid pictures of this past filled my mind, and they would stand out as soon as I visited a particular place associated with them. At Sarnath, near Banaras, I would almost see the Buddha preaching his first sermon, and some of his recorded words would come like a distant echo to me through two thousand five hundred years. Ashoka's pillars of stone with their inscriptions would speak to me in their magnificent language and tell me of a

man who, though an emperor, was greater than any king or emperor. At Fatehpur Sikri, Akbar, forgetful of his empire, was seated holding converse and debate with the learned of all faiths, ^{eagerly} curious to learn something new and seeking an answer to the eternal problem of man.

^{and scene} Thus slowly the long panorama of India's history unfolded itself before me, with its ups and downs, its triumphs and defeats. There seemed to me something unique about the continuity of a cultural tradition through five thousand years of history, of invasion and upheaval, a tradition which was widespread among the masses and powerfully influenced them. Only China has had such a continuity of tradition and cultural life. ^{And} this panorama of the past gradually merged into the unhappy present, when India, for all her past greatness and stability, was a slave country, an appendage of Britain, and all over the world terrible and devastating war was raging and brutalizing humanity. But that vision of five thousand years gave me a new perspective and the burden of the present seemed to grow lighter. The hundred and eighty years of British rule in India were just one of the unhappy interludes in her long story; she would

find herself again; already the last page of this chapter was being written. The world also will sur- ^{उत्थ}
vive the horror of today and build itself anew on
fresh foundations

Terror = भय

comp

5. THE SCIENTIFIC OUTLOOK दीर्घा

It is ^{सामान्य} customary in all branches of science to associate ^{संबंधित} the names of eminent ^{प्रमुख} men with the facts and principles discovered by them which form the foundations of the subjects. This practice is found to be useful since ^{become} it helps to abbreviate ^{संक्षेप} and give ^{correctness} precision to the ^{अप्राप्य} terminology of science. It also serves to commemorate ^{करा} the name and fame of the leaders of science whose labours have helped to create a subject. Indeed, this is how the student of science first gets to know the names of the great leaders in his subject. ^{comp} The touch of human interest which the study of science gains in this way is of no small value, since it ^{अति-प्रतीति} emphasises ^{असली} the real nature of science as a living and growing creation of the human spirit.)

A study of the history of individual branches of science and of the ^{जीवन-इतिहास} biographies of the leading ^{विद्वानों} contributors to their development is ^{आवश्यक} essential for a proper appreciation of the real meaning and spirit of science. They often ^{प्रदान} afford much more ^{अपेक्षा} stimulating reading than the most learned of formal treatises on science. To the teacher, such

Thesis

histories and biographies are invaluable. (When-
 ever he finds the attention of his listeners flagging
 a little, he can always enliven his class by telling a
 little story of how this or that great discovery in
 his subject was made or by recalling some anecdote
 about one or another of the famous investigators
 in the field.) In this way, the teacher can con-
 vey to the student an understanding of how science
 is made and of the intellectual outlook which is
 the essence of it.

What is meant by a scientific discovery?
 How is it made? These are questions of peren-
 nial interest which are often asked and to which
 the most varied answers have been returned. (A
 discovery may obviously be either of a new fact or
 of a new idea. It is clear, however, that an un-
 explained observation is of no particular signifi-
 cance to science. (An idea unsubstantiated by
 facts is equally devoid of importance. Hence to
 possess real significance a scientific discovery must
 have both an experimental and a theoretical basis.)
 Which of these aspects is the more important de-
 pends on the particular circumstances of the case,
 and a rough distinction of theory. Rontgen's
 discovery of X-rays, for example, was clearly an ex-
 perimental one, while Planck's equally important

discovery of the ^{wishes} quantum of action was clearly in the field of theory. (The ^{मिशन} manner in which a scientific discovery is made and the ^{एटिचुड} attitude of the ^{इन्वेस्टिगेटर} investigator which makes such a discovery possible are ^{clearly} obviously very different in the two cases. This distinction between the attitudes of the ^{एक्सपेरिमेंटर} experimenter and the ^{थीरिस्ट} theorist is most obvious in the mathematical sciences. (It is much less obvious in those sciences which ^{रिपेण्ड} rest more ^{ऑन एम्पिरिकल फाउण्डेशन} exclusively on an empirical foundation and in which observation of fact and thinking about facts are less easily separable processes. ^{तो मके सेपरेट}

The word discovery suggests a dramatic and ^{इन्साइडिंग} exciting event, like finding a fifty-^{काराट} carat diamond in a ploughed field, for example. The history of science is indeed full of such dramatic discoveries, the drama and the ^{एक्साइटमेंट} excitement being particularly ^{एक्सप्रेसिबल इन द पर्सनल बिहवियर ऑफ द साइंटिस्ट} manifested in the personal behaviour of the scientist immediately following the event. I could tell one or two stories myself of such incidents in the life of a scientist. The ^{क्लासिक} classic story is that of Archimedes who ^{रुशेड} rushed into the street straight from his bath ^{विथ नोथिंग ऑन} with nothing on, crying: "Eureka, eureka," when his famous principle of hydrostatics ^{फ्लैशेड इनटो हिस माइंड} flashed into his mind. The point of the story is the intense emotion aroused by a sense of the over-

^{Great Joy}
whelming importance of the new idea. The joy and exaltation ^{असीम} felt at such a moment are indescribable. (Indeed, such dramatic moments come into the life of even the most devoted follower of science ^{A great scientist} but once or twice in his career. They are the greatest reward of a lifetime spent in the suit ^{अपनी गुरुत्व} of knowledge for its own sake.) Lesser discoveries come oftener and are a source of profound ^{असीम} satisfaction and encouragement ^{असीम} to the investigator. But they do not make such soulstirring ^{हृदय-को पांडित्य कोण को लो} drama.

It should be mentioned ^{न्याय-न्याय} that the reception ^{स्वागत} given at first to even capital ^{महत्व} discoveries by the outer world is not always one of respectful admiration ^{सम्मान} for the achievement of the discoveries.

(One of the commonest ways in which the achievement is sought to be ^{चाहते हैं} minimised ^{अन-जोड़ना} by the unthinking ^{मूर्ख} or the envious ^{अहंकार} is by attributing ^{आदिना} it to accident or a stroke of luck ^{समाग} akin ^{जोड़ना} to the winning of a lottery ticket ^{A game of chance}.) Such comments ^{आलोचना} are of course deplorable ^{दुर्लभ} and indeed quite meaningless ^{बुद्धिहीन}. The idea that a scientific discovery can be made by accident is ruled out ^{नकार} by the fact that the accident, if it is one, never occurs ^{हappens} except to the right man.) (The happy discoverer in science is invariably ^{निरंतर} a seeker ^{आयन} after knowledge and truth working in a chosen field of his own and inspired in his labours by the hope of

finding at least a little gain of something new. ^{Profect or Advantage} The commentators who like to consider discoveries as accidents forget that the most important part of a scientific discovery is the recognition of its true nature by the observer, and this is scarcely possible if he does not possess the requisite capacity or knowledge of the subject. ^{fully known hardly} Rarely indeed are any scientific discoveries made except as the result of a carefully thought-out programme of work. ^{planning} They come, if they do come, as the reward of months or years of systematic study and research in a particular branch of knowledge. ¹²²

If the world is sometimes slow to recognise the importance of fundamentally new experimental facts, it is not to be wondered at if it is slower still in appreciating and accepting new theoretical ideas. ^{समझना मुश्किल} Usually, such new ideas are looked upon with indifference or suspicion, and many years of persistent advocacy and powerful observational support are required before the investigator can hope to see his ideas generally accepted. The story is often told of Arrhenius and the doctorate thesis which he presented to Stockholm University containing his new ideas regarding the nature of solutions, supported by a great volume of experimental data. ^{124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000} All that he received for this epoch-

making work was a fourth class degree permanently disqualifying him from an academic career. Arrhenius happily survived this experience, and lived to receive the Nobel Prize and to be venerated as his country's greatest scientist. But there are, unhappily, other instances of youthful genius being repressed and completely suppressed as well.

(If there is one fact more than any other which stands out in the history of science, it is the remarkable extent to which great discoveries and youthful genius stand associated together. Scores of instances can be quoted in support of this proposition.) Indeed, if one were to attempt to write a treatise on any branch of science in which all discoveries made by youthful workers were left out, there would be very little left to write about.

(The fact of the matter appears to be that, other things being the same, the principal requisite for success in scientific research is not the maturity of knowledge associated with age and experience, but the freshness of outlook which is the natural attribute of youth.) The conservatism which develops with increasing age is thus revealed as a factor which militates against great achievement in science. The great ideas seem to come most easily to youthful minds. Since, however, much

time is required to work out a new idea properly and fully, age and experience are not altogether useless in sciences. Up to a certain point, the conservatism bred by age may even be useful as a brake on the wilder flights of youthful imagination. Further, even the elderly may, if they so choose, retain and cherish a youthful spirit and outlook. So long, therefore, as they do not allow the conservatism of age to function as a suppressor of youthful genius, the elderly may continue to find themselves useful as guides and inspirers of research. On this view, indeed, the principal function of the older generation of scientific men is to discover talent and genius in the younger generation and to provide ample opportunities for its free expression and expansion.

So far I have said little about the nature of the urge which leads the elite few to devote themselves to science and live laborious days in its service. This is a part of the larger question, what is it that drives men to devote themselves to any type of idealistic activity? I think it will be readily conceded that the pursuit of science derives its motive power from what is essentially a creative urge. (The painter, the sculptor, the architect and the poet, each in his own way, de-

best of things
finds

gives his inspiration from nature and seeks to re-
 present her through his chosen medium, be it
paint, or marble, or stone, or just well-chosen
words strung together like pearls on a necklace.
 The man of science is just a student of nature
 and equally derives his inspiration from her. He
 builds or paints pictures of her in his mind,
 through the intangible medium of his thoughts.
 He seeks to resolve her infinite complexities into
 a few simple principles or elements of action
 which he calls the laws of nature. In doing this,
 the man of science, like the exponents of other
 forms of art, subjects himself to a rigorous disci-
pline, the rules of which he has laid down for
 himself and which he calls logic. The pictures
 of nature which science paints for us have to
 obey these rules, in other words, have to be self-
consistent. (Intellectual beauty is indeed the
highest kind of beauty. Science, in other words,
 is a fusion of man's aesthetic and intellectual
 functions devoted to the representation of nature.
 It is, therefore, the highest form of creative art.)

6. THE DOCTRINE OF THE SWORD

I do believe that, where there is only a choice between ^{dis}cowardice and violence, I would advise violence. Thus when my eldest son asked me what he should have done, had he been present when I was almost ^{Bodily}fatally ^{attacked}assaulted in 1908, whether he should have run away and seen me killed or whether he should have used his physical force which he could and wanted to use, and defend me, I told him that it was his duty to defend me even by using violence. Hence it was that I took part in the Boer-War, the so-called Zulu Rebellion and the late War. Hence also do I advocate ^{Recomm} training in arms for those who believe in the method of violence. (I would rather have India re-^{use} sort to arms in order to defend her honour than that she should in a cowardly manner become or remain a helpless witness to her own dishonour.)

But I believe that non-violence is infinitely superior to violence, [forgiveness is more manly than ^{पुनर्}punishment. ^{पardon}Forgiveness adorns a soldier. ^{Decorat} But abstinence is forgiveness only when there is the power to punish; it is meaningless when it pretends to proceed from a helpless creature. A

mouse hardly forgives a cat when it allows itself to be torn to pieces by her. I, therefore, appreciate the sentiment of those who cry out for the condign punishment of General Dyer and his ilk. They would cut him to pieces, if they could. But I do not believe India to be helpless. I do not believe myself to be a helpless creature. Only I want to use India's and my strength for a better purpose.

[Let me not be misunderstood.) Strength does not come from physical capacity. It comes from an indomitable will. An average Zulu is anyway more than a match for an average Englishman in bodily capacity. But he flees from an English boy, because he fears the boy's revolver or those who will use it for him. He fears death and is nerveless in spite of his burly figure. We, in India, may in a moment realise that one hundred thousand Englishmen need not frighten three hundred million human beings. A definite forgiveness would, therefore, mean a definite recognition of our strength. With enlightened forgiveness must come a mighty wave of strength in us, which would make it impossible for a Dyer and a Frank Johnson to heap affront on India's devoted head. It matters little to me that for the moment I do not drive my point home. We feel too downtrodden.

I want to explain my point.

den not to be angry and revengeful. But I must not refrain from saying that India can gain more by waiving the right of punishment. We have better work to do, a better mission to deliver to the world.)

I am not a visionary. I claim to be a practical idealist. The religion of non-violence is not meant merely for the rishis and saints. It is meant for the common people as well. Non-violence is the law of our species as violence is the law of the brute. The spirit lies dormant in the brute, and he knows no law but that of physical might. The dignity of man requires obedience to a higher law—to the strength of the spirit.)

I have therefore ventured to place before India the ancient law of self-sacrifice. For Satyagraha and its offshoots, non-co-operation, and civil resistance, are nothing but new names for the law of suffering. The rishis, who discovered the law of non-violence in the midst of violence, were greater geniuses than Newton. They were themselves greater warriors than Wellington. Having themselves known the use of arms, they realised their uselessness, and taught a weary world that its salvation lay not through violence but through non-violence.)

(Non-violence in its ^{Practical} dynamic condition means ^{गतिबल} conscious suffering. (It does not mean ^{gentle} meek sub-^{under} mission to the will of the ^{unjust man} evil-doer, but it means putting of one's whole soul against the will of the tyrant. Working under this law of our being, it is possible for a ^{one man} single individual to ^{challenge} defy the whole might of an unjust empire to save his honour, his religion, his soul, and lay the foundation for that empire's fall or its regeneration. ^{new works} . २. fish

And so I am not ^{defending} pleading for India to practise non-violence because it is weak. I want her to practise non-violence being ^{31-32-33 knowing} conscious of her strength and power. No training in arms is ^{प्राप्त करने के लिए} required for realisation of her strength. We seem to need it, because we seem to think that we are but a lump of flesh. I want to ^{Tell} recognise that she has a soul that cannot ^{हो न सकेगा} perish and that can rise triumphant above every ^{बोली} physical weakness and defy the ^{आपस में एकत्र} physical combination of a whole world. (What is the meaning of Rama, a ^{simple man} mere human being, with his ^{होम} host of monkeys, ^{प्रवाद} pit himself against the ^{insulting} insolent strength of ten-headed Ravana surrounded in supposed ^{secure} safety by the ^{fearless} raging waters on all sides of Lanka?) Does it not mean the con-quest of physical might by spiritual strength? However, being a practical man, I do not wait till

India recognises the practicability of the spiritual life in the political world. India considers herself to be powerless and paralysed before the machine-guns, the tanks and the aeroplanes of the English, and takes up non-co-operation out of her weakness.

It must still serve the same purpose, namely, bring her delivery from the crushing weight of British injustice, if a sufficient number of people practise it.

I isolate this non-co-operation from Sinn Feinism, (for it is so conceived as to be incapable of being offered side by side with violence.) But I invite even the school of violence to give this peaceful non-co-operation a trial. It will not fail through its inherent weakness. It may fail because of poverty of response. Then will be the time for real danger. (The high-souled men, who are unable to suffer national humiliation any longer, will want to vent their wrath.) They will take to violence.) So far as I know, they must perish without delivering themselves or their country from the wrong.

If India takes up the doctrine of the sword, she may gain momentary victory. Then India will cease to be the pride of my heart. I am wedded to India because I owe my all to her. I

believe ^{योजना} absolutely ^{clearly wholly} that she has a mission for the world. She is not to copy Europe blindly. India's acceptance of the doctrine of the sword will be the hour of my trial. I hope I shall not be found wanting. My religion has no geographical limits. (If I have a living faith in it, it will transcend my love for India herself.) My life is dedicated to the service of India through the religion of non-violence which I believe to be the root of Hinduism.

Basis सिद्धि

Express ^{ग्रेस} ^{clearly} the view of
 Mahatma Gandhi on the
 non-violence
 concept

7. THE GREAT UNKNOWN

I

Walter Scott was born in Edinburgh in 1771. His father was a ^{pleader} solicitor, and his mother, the daughter of a professor of medicine in the University, had been much better educated than the majority of ladies at this time: from her lips he heard many stories of the past, to which, we may be sure, he eagerly listened, and which he stored away in his ^{very early} marvellously retentive memory. kept

Little Walter was very fond of his mother, grateful to her, and proud of her too. Writing about her after her death many years later, he said, 'She had a mind peculiarly well stored with much acquired information and natural talent, and as she was very old, and had an excellent memory, she could draw, without the least exaggeration or affectation, the most striking pictures of the past age. If I have been able to do anything in the way of painting the past times, it is very much from the studies with which she presented me'. at the time

A good deal of his early life, however, was not spent at his own home in Edinburgh, but away

at his grandfather's farm at Sandy Knowe. He was kept out of doors as much as possible, for the sake of his health, and often he would be sent out in the care of one of the shepherds, who would lay him down on the grass among the sheep. ३१०१२

We can picture the 'sweet-tempered bairn', with his chestnut hair and light blue eyes, galloping about the country on his tiny pony, lying down to rest every now and again on the rocky hills by the side of some old shepherd, who would soon be telling him stories of warlike heroes, or reciting ballads of bygone days. ३१११२ ३१११३

When he went to school he found no difficulty in learning the things that appealed to him, such as history and literature; but with other subjects he was not so quick, so that sometimes he was at the top of the class, sometimes at the bottom.

He distinguished himself far more in the playground than he did in the class-room, for he constantly delighted his school-fellows with the innumerable stories he made up for their entertainment, and at the same time proved to them that though he was lame he was quite a match for them in their games. He took his part too in all their 'bickers', or street fights, with the boys of the town which the High School boys then indulged

in, and he became quite famous for his boldness in climbing the precipitous ^{romantic} path at the very top of the rock on which Edinburgh Castle stands.

School-days came to an end, and Scott began to attend the law class at the University. These studies did not interest him much; but he worked hard at them, and at the same time set himself to study medieval legends and Border songs: he also took up the study of Italian and Spanish, that he might read the romantic literature of these countries. Always his friends noted two things about him, his gigantic memory, and his tireless industry. When he became an apprentice to his father he had only a very small allowance, and as he wanted more money to devote to his favourite studies, he set to work copying law papers. At one time he wrote as many as 120 large pages at one sitting, with no interval for food or rest, though the work must have taken him fourteen or fifteen hours at the very least.

In his father's office he cultivated regular business habits, which were to stand him in good stead later on; but whenever he was free, he would trudge over the neighbouring country, sometimes, in spite of his lameness, covering as much as thirty miles a day, in search of the beauties of nature, or

the ballads and legends he loved so well. So often did he go tramping about in this way that his father reproached him with being better fitted for a pedlar than a lawyer.

He was, however, studying hard all the time, and eventually he passed his examinations and was 'called to the Bar'. He now received some employment from his father and other lawyers, but he still had plenty of leisure, which he employed either in telling stories to his companions, or in making 'Border Raids', as he called them, in search of fresh material.

II

In 1797, when he was about twenty-six years old, he married a beautiful girl named Mary Carpenter. They settled in Edinburgh and lived together happily for many years.

He now began to work seriously at the collection of Border Ballads which he had been making for so many years during his excursions into Liddersdale and elsewhere, and in 1802 they were published with the title *Border Minstrelsy*. The book sold well, and gained for Scott high literary praise,

for he had written some very accurate illustrations and historical descriptions of the old ballads, and had added some new ones of his own which gave unmistakable promise of the genius of the writer.

Three years later, he produced his first great story in verse, *The Lay of the Last Minstrel*, and awoke one morning, as Byron did, 'to find himself famous'.

His gift for story telling, which upto the present had pleased merely his own friends and acquaintances, was now giving delight to the world at large. There is something in the poem to please all tastes: stir and movement, graceful songs, beautiful descriptions. Scott received for this poem £769, an unusually large amount, for a poet to receive in those days.

Other long story poems, *Marmion* and *The Lady of the Lake*, followed in quick succession and were equally popular. Perhaps this was due, not so much to the story, as to the romantic glow which pervaded the poems, their swift, marching rhythm, and above all, to their remarkable simplicity, which made them appreciated by all.)

Unfortunately, about this time Scott quarrelled with his publisher, and it was decided that

a new firm, consisting of himself and John and James Ballantyne, friends of his boyhood days, should be started. This publishing business was never a success, and lost money faster than Scott could earn it by his writing. Later, as we shall see, it got him into serious difficulties.

For the moment, however, Scott was ^{Rich.} ~~very~~ prosperous, and he determined to buy the ^{estate} ~~estate~~ of Abbotsford. Here he had built for himself a beautiful house, which gradually grew to be as large and ^{sumptuous} ~~luxurious~~ as a palace. The surrounding country was wild and barren, but it became the great passion of Scott's life to develop it, until his house was surrounded by beautiful gardens, rich pastures, and pleasing woodlands. 'Planting and pruning trees' he says, 'I could work at from morning till night.'

Though Scott was now both rich and famous, his great life-work was still to be done.. It is not so much for his poems that we think of him with gratitude today, as for the wonderful novels, which, after this date, came from his pen.

Looking through his desk one day in search of fishing-tackle, he came across the manuscript of a tale which he had started and laid aside unfinished some years before. He took it out, read it

through, and determined to finish it. With hard and constant work he got it finished in three weeks, and sent it to the publisher with the title of *Waverley*, but without putting his name to it.

Immediately it was received with great ap-
plause, for there had never been a historical novel like it before. (Here the dry bones of history were made to live; each scene was presented to the reader as a ^{clearly} vivid and ^{attractive} charming picture, in which real men and women moved across the canvas.) Everybody was anxious to know the name of the author, but for a long time the secret was well kept, and he came to be spoken of as 'The Great Unknown'.

From this time novels followed each other in quick succession. His works were read all over Europe, and he was welcomed everywhere as a great and rare genius. He made a great deal of money by his books, and in 1820 he was given a baronetcy.

During these years he got up at five every morning and worked furiously till ten or twelve o'clock; the rest of the day he gave to his family and his friends, his horses and his dogs. Never was there a man who loved children and animals more than Sir

Walter; and they in their turn were devoted to him.

III

But alas, these happy days came to an end all too soon. Through no fault of Sir Walter's, the publishing firm of Ballantyne & Co., with which he was connected, suddenly found itself burdened with debts to large amount of £117,000. All Sir Walter's money had to go towards paying these debts, which, we must remember, were not of his making. So at the age of fifty-five he found himself suddenly penniless. ~~And~~

All the money he had only paid off a small amount of the debt, and by declaring himself bankrupt he could have escaped the payment of the rest. ~~But~~ But such a course, though advised by some of his friends, was loathsome to his chivalrous nature: he would rather die than stain his honour by avoiding the just payment of the debts. So, instead of being able to settle down to an old age of comfort, he set to work harder than before to earn money with which to pay his creditors.

Working hard for fourteen hours every day, he was able, within two years, to earn £40,000 towards paying off the debt. But his health suffered under the strain. He felt himself gradually getting

weaker and weaker, but still he drudged on for another three years.

Then he was attacked by paralysis, and the doctors ordered him to the warmer climate of Italy.

The government placed a ship at his disposal, and on his arrival in Italy he was treated everywhere with the greatest honour, and recognized as the foremost writer of his age, not only of Britain but of the world.

But his health was getting worse and worse, and he longed to get back to his beloved Abbotsford. The return home seemed to revive him for a while. He was able to receive his friends, and occasionally he was taken in a bathchair to see once again some of those scenes he so dearly loved. Three months after his return home he died very quietly and peacefully, and was buried within the ruins of Dryburgh Abbey, by the side of the stream he had loved so well.

How was Scott the great man
known?
The sketch of Scott.

8. M. K. GANDHI

fast took by G. 1914 to bring about Hindu-Muslim unity
 "Among those who ^{came to see.} visited Delhi during the weeks of fasting, penance and prayer there was a young student from Santiniketan, named Ramachandran. He is one of the pupils of ^{Disciple of (Mr. Andrews)} Mr. Andrews, and had no difficulty in ^{made him to agree} persuading his teacher to ^{allowed} permit him to stay at Delhi for some time after the ^{पवाह} fast was over. In the end Mr. Andrews took Ramachandran ^{उपवास अंत में} upstairs and said to Gandhiji, 'I have not even introduced Ramachandran ^{अभी तक} as yet to you. But he has been ^{उपवास के समय} all the while with us, helping us devotedly with true love. He wants to ask you some questions; and I shall be so glad if you could have a talk with him before he leaves to-morrow to go back to Santiniketan.' Gandhiji at once gave his consent. ^{सुनने} Agreed.

'How is it,' asked Ramachandran, 'that many intelligent and ^{famous} eminent men, who love and ^{प्रार्थना} admire you, ^{think} hold that you have ^{Remembered} ruled out of the ^{उत्थान} scheme of national ^{Progress} regeneration all ^{अपमान} considerations of Art?'

'I am ^{Regret} sorry,' replied Gandhiji, 'that in this matter I have been generally misunderstood. Let

me explain. There are two ^{मुख्य} aspects, the outward ^{external} and the inward ^{internal}. It is purely a matter of emphasis ^{जोर देना} with me. ^{नाब} The outward ^{Has no Value} has no meaning to me at all except in so far as it helps the inward. All true Art is the ^{Express} expression ^{स्फूर्ति} of the soul. (The outward ^{shape} forms have value only in so far as they are the expression of the inner spirit of man.)

Ramachandran ^{रामचंद्रन} hesitatingly suggested, ^{अनजोर} The great artists themselves have declared that Art is the translation of the urge and unrest ^{अनुरोध} in the soul of the artist into words, colours, ^{Restlessness} shapes.

'Yes', said Gandhiji, 'Art of that nature ^{स्वरूप} has the greatest possible appeal for me. But I know that many call themselves artists in whose works there is ^{completely} absolutely ^{सि} no trace of the soul's upward ^{उपर} urge and unrest.'

'But the artists ^{कारण} claim to see and to find Truth through outward beauty,' said Ramachandran. 'Is it possible to see and find Truth in that way?' ^{उपर के जो पारना है}

'I would reverse the order,' Gandhiji immediately answered: 'I see and find beauty through Truth. All Truths, not merely true ideas, but truthful faces, truthful pictures, truthful songs, are highly beautiful. Whenever men begin to see Beauty in Truth, then Art will arise.' ^{Development}

'But cannot Beauty,' Ramchandran asked, 'be ^{Isolated} separated from Truth and Truth from Beauty?'

'I should want to know exactly what is Beauty,' Gandhiji replied, 'If it is what people generally understand by that word, then they are wide apart. Is a woman with fair features necessarily beautiful?'

'Yes', replied Ramchandran without thinking.

'Even,' asked Bapu, continuing his question, 'if she may be of an ugly character?'

Ramchandran hesitated. 'But her face', he said, 'in that case cannot be beautiful.'

'You are ^{accept} begging the whole question,' Gandhiji replied. 'You now admit that ^{only} mere outward form may not make a thing beautiful. To a true artist only that face is beautiful which, quite apart from its ^{outward} exterior, shines with the Truth within the soul. There is then, as I have said, no Beauty apart from Truth. On the other hand, Truth may ^{come out} manifest itself in forms which may not be outwardly beautiful at all. ^{Hence a great philosopher} Socrates, we are told, was the most truthful man of his time, and yet his ^{face and body} features are said to have been the ugliest in Greece.'

in my opinion

To my mind he was beautiful because all his life was a ^{trying} striving after Truth.'

'But, Bapuji', said Ramchandran eagerly, 'the most beautiful things have often been created ^{Produced} by men whose lives were not beautiful.'

'That,' said Gandhiji, 'only means that Truth and Untruth often ^{सोच सारां दोषों के साथ साथ} co-exist; good and evil are often found together. In an artist also not seldom ^{अक्सर} the right perception of things and the wrong co-exist. Truly beautiful creations only come when right perception is at work. If these moments are rare ^{अनुभूति ही असामान्य} in life they are also rare in Art.'

('Is there Truth, Bapuji, in things that are neither moral nor immoral ^{नैतिक} in themselves? For ^{for example} instance, is there Truth in a sunset, or a crescent moon ^{अर्धचंद्र} that shines amid the stars at night? ^{Really as far as}

^{life is like that} 'Indeed', replied Gandhiji 'these beauties are truthful ^{Thought} inasmuch as they make me think of the Creator at the back of them. How could these be beautiful but for the Truth that is in the centre of creation? [When I admire the wonder of a sunset or the beauty of the moon, my soul expands ^{risers high} in worship of the Creator. I try to see Him and His mercies in all these creations.] But even the

sunsets and sunrises would be mere ^{समस्त obstacle} hindrances if they did not help me to think of Him.'

'Are you against all ^{machines of all times} machinery,' Bapuji' asked Ramachandran.

'How can I be' he answered, smiling at Ramachandran's ^{simple} naive question, 'when I know that even the body is a most ^{most fine} delicate piece of machinery? The ^{यहाँ} spinning-wheel itself is a machine. What I object to is the ^{यहाँ} craze for machinery, not machinery as such. The craze is for what they call ^{the machine saves man from hard labour} labour-saving machinery. Men go on 'saving labour' till thousands are without work and thrown on the open streets to die of ^{starvation} starvation. I want to save time and labour, not for a ^{for some people} fraction of mankind, but for all. I want the ^{यहाँ} concentration of wealth, not in the hands of a few, but in the hands of all. Today machinery merely helps a ^{control} few to ride on the backs of millions. The ^{object} impetus behind it all is not the ^{यहाँ} philanthropy to save labour but greed.'

'Then, Bapuji,' said Ramachandran, 'you are fighting not against machinery as such, but against its ^{defects} abuses, which are so much in ^{evidence} evidence to-day?'

'I would ^{निगल} unhesitatingly say "yes"; but I would add that scientific truths and discoveries

something more

should first of all ^{stop} cease to be the mere ^{means साधन} instruments of greed.) Then ^{होना चाहिए} labourers will not be overworked, and machinery, ^{अथवा} instead of becoming a hindrance, will be a help. I am aiming, not at the ^{अनर्थक Removal} eradication of all machinery, but its limitation.

{ Ramachandran said: 'When ^{According to reason} logically argued out, that would seem to simply that all complicated power-driven machinery should go.'

^{Welfare} 'It might have to go,' admitted Gandhiji, 'but I must make one thing clear. The supreme consideration ^{अथवा machine} is of man. The machine should not tend to make atrophied the limbs of men. For ^{54.12.20} instance, I would make ^{अपवाद} intelligent exceptions. Take the case of the Singer Sewing Machine. It is one of the few useful things ever invented, and there is a romance about the device itself. Mr. Singer saw his wife labouring over the tedious process of sewing with her own hands, and simply out of his love for her he improved on the sewing machine, in order to save her from unnecessary labour. He, however, saved not only her labour, but also the labour of everyone who could purchase a sewing machine.'

'But, in that case,' said Ramachandran, 'there would have to be a factory for making these Singer Sewing Machines, and it would have to

contain ^{driven by steam} power-driven machinery of ordinary type.'

'Yes,' said Bapu, smiling at Ramachandran's eager ^{Resistance} opposition. 'But I am Socialist enough to say that such factories should be nationalized. They ought only to be working under the most attractive conditions, not for profit, but for the benefit of humanity, (love taking the place of greed as the ^{Mean aim} motive-power.) It is an ^{Change} alteration in the conditions of labour that I want. This mad ^{End} rush for wealth must cease; and the labourer must be assured, not only of a living wage, but of a daily task that is not a mere drudgery. The machine will, under these conditions, be as much a help to the man working it as to the State. The present mad rush will cease, and the labourers will work (as I have said) under attractive and ideal conditions. This is but one of the ^{अपवाद} exceptions I have in mind. The sewing machine had love at its back. The ^{one man} individual is the one ^{greatest} supreme consideration. The saving of labour of the individual should be the object, and honest humanitarian considerations and not greed the motive-power. Thus, for instance, I would welcome any day a machine to straighten crooked spindles. Not that blacksmiths will cease to make supplies;

they will continue to provide the spindles; but
when the spindle gets wrong every spinner will
have a machine of his own to get it straight.
Therefore replace greed by love and everything
will come right.'

9. AN EMPEROR'S BIRTHDAY

September 2, 1616. This day was the birth of the King and ^{निर्वाह} solemnized as a great feast, wherein the King is ^{पेशवा} weighed against some jewels, gold, silver, stuffs of gold and silver, silk, butter, rice, fruit, and many other things, of ^{सुख} every sort a little, which is given to the Brahmins. To this solemnity the King commanded Asaf Khan to send for me, who so doing appointed me to come to the place where the King sits out at durbar and there I should be sent for in. But the messenger mistaking, I went not until durbar time; and so missed the sight. But ^{जब} being there before the King came out, as soon as he spied me, he sent to know the reason why I came not in, he having given order. I answered according to the error; but he was ^{अब} extremely angry, and ^{सिखा} chid Asaf Khan publicly.

He was so rich in jewels that I must confess I never saw together such invaluable wealth. The time was spent in bringing his greatest elephants before him, some of which, being lord elephants, had their chains, bells, and furniture of gold and silver, attended with many gilt.

^{एवम्}
banners and flags, and eight or ten elephants waiting on him, clothed in gold, silk, and silver.

^{राजा के} Thus passed about twelve companies most richly furnished, the first having all the plates on his head and breast set with rubies and emeralds, being a beast of a wonderful ^{आकार} stature and beauty. They all bowed down before the King, making reverence very handsomely, and was a show as worthy as I ever saw any of ^{जानवर} beasts only. The keepers of every chief elephant gave a present. So, with ^{वन्दना} gracious compliments to me, he rose and went in.

At night about ten of the clock he sent for me. I was ^{सो रहा था} abed. The message was: he heard I had a picture which I had not showed him, desiring me to come to him and bring it; and if I would not give it him, yet that he might see it and take copies for his wives. I rose and carried it with me.

^{प्रती} When I came in, I found him ^{फर्माया} sitting cross-legged on a little throne, all clad in diamonds, pearls and rubies; before him a table of gold, on it about fifty pieces of gold plate, set all with stones, some very great and extremely rich, some of less value, but all of them almost covered with small stones; his nobility about him in their best ^{पुत्र}

Access and ornaments

equipage, whom he commanded to drink frolicly,
several wines standing by in great flagons. अभी नहीं पढ़ें

When I came near him, he asked for the picture. He seemed astonished at one of them; and demanded whose it was. I answered: a friend of mine that was dead. He asked me if I would give it him. I replied that I esteemed it more than anything I possessed, because it was the image of one that I loved dearly and could never recover; ^{पुनः प्राप्त} but that if His Majesty would pardon me my fancy and accept of the other, which was a French picture but excellent work, I would most willingly give it him. He sent me thanks, but that it was that only picture he desired, and loved as well as I, and that, if I would give it he would better esteem of it than the richest jewel in his house. (I answered I was not so in love with anything that I would refuse to content His Majesty: I was extremely glad to do him service, and if I could give him a better demonstration of my affection, which was in my heart, to do him service, I was ready to present it to him.) At which he bowed to me and replied it was sufficient that I had given it: that he confessed he never saw so much art, so much beauty, and conjured me to

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tell him truly whether ever such a woman lived. I assured him that there did ³⁰one live that this did resemble in all things but perfection, and was now dead.

He returned me that he took my willingness very kindly, but that, seeing I had so freely given him that I esteemed so much, he would not rob me ²of it: only he would show it his ladies and cause ³his workmen to make five copies, and if I knew mine own I should have it. I answered I had freely and willingly given it and was extremely glad of His Majesty's acceptance. He replied he would take it; that he loved me the better for loving the remembrance of my friend, and knew what an injury ⁴it was to take it from me: by no means would he keep it, but only take copies, and with his own hand he would return it, and his wives should wear them; for indeed in that art of limning his painters work miracles. ⁵The other, being in oil, he liked not.

Then he sent me word it was his birthday and that all men did make merry, and to ask if I would drink with them. I answered: ⁶whatsoever His Majesty commanded: I wished him many prosperous days, and that this ceremony might be renewed a hundred years. He asked

me what wine, whether of the grape or made, whether strong or small. I replied: what he commanded, hoping he would not command too much nor too strong. So he called for a cup of gold of ^{my}mingled wine, half of the grape, half artificial, and drank, causing it to be filled and sent it by one of his nobles to me with this message: that I should drink it twice, thrice, four or five times off for his sake, and accept of the cup and appurtenances as a present. I drank a little, but it was more strong than ever I tasted, so that it made me sneeze: whereat he laughed and called for raisins, almonds and sliced lemons, which were brought me on a plate of gold, and he bade me eat and drink what I would and no more.

So then I made reverence for my present after mine own manner, though Asaf Khan would have caused me kneel, and knock my head against the ground: but His Majesty best accepted what I did.

The cup was of gold, set all over with small turquoises, rubies, the cover of the same set with great turquoises, rubies, and emeralds in works, and a dish suitable to set the cup upon. The value I know not, because the stones are many of them small, and the greater, which are also many,

10. THE ASCENT OF EVEREST

Sir Edmund Hillary

We cut a seat for ourselves just below the southern summit and removed our oxygen. Once again I worked out the mental arithmetic that was one of my main preoccupations on the way up and down the mountain. As our first partly full bottle of oxygen was now exhausted, we had only one full bottle left. Eight hundred litres of oxygen at three litres per minute? How long could we last? I estimated that this should give us $4\frac{1}{2}$ hours of going. Our apparatus was now much lighter, weighing just over 20 lb., and as I cut steps down off the southern summit I felt a distinct sense of freedom and well-being quite contrary to what I had expected at this great altitude.

As my ice-axe bit into the first steep slope of the ridge, my highest hopes were realised. The snow was crystalline and firm. Two or three rhythmical blows of the ice-axe produced a step large enough even for our oversized High Altitude boots and, the most encouraging feature of all a firm thrust of the ice-axe would sink it

half-way up the shaft, giving a solid and comfortable belay. We moved one at a time. I realized that our margin of safety at this altitude was not great and that we must take every care and precaution. I would cut a forty foot line of steps, Tenzing belaying me while I worked. Then in turn I would sink my shaft and put a few loops of the rope around it and Tenzing, protected against a breaking step, would move up to me. Then once again as he belayed me I would go on cutting. In a number of places the overhanging ice cornices were very large indeed and in order to escape them I cut a line of steps down to where the snow met the rocks on the west. It was a great thrill to look straight down this enormous rock face and to see, 8000 feet below us, the tiny tents of Camp IV in the Western Cwm. Scrambling on the rocks and cutting handholds in the snow, we were able to shuffle past these difficult portions.

On one of these occasions I noted that Tenzing, who had been going quite well, had suddenly slowed up considerably and seemed to be breathing with difficulty. The Sherpas had little idea of the workings of an oxygen set and from past experience I immediately suspected his oxygen supply. I

noticed that hanging from the exhaust tube of his oxygen mask ~~were~~ icicles, and on closer examination found that this tube, some two inches in diameter, was completely blocked with ice. I was able to clear it out and gave him much-needed relief. On checking my own set I found that the same thing was occurring, though it has not reached the stage to have caused me any discomfort. From then on I kept a much closer check on this problem.

The weather for Everest seemed practically perfect. Insulated as we were in all our down clothing and windproofs, we suffered no discomfort from cold or wind. However, on one occasion I removed my sunglasses to examine more closely a difficult section of the ridge but was very soon blinded by the fine snow driven by the bitter wind and hastily replaced them. I went on cutting steps. To my surprise I was enjoying the climb as much as I had ever enjoyed a fine ridge in my own New Zealand Alps.

After an hour's steady going we reached the foot of the most formidable-looking problem on the ridge—a rock step some forty feet high. We had known of the existence of this step from aerial photographs and had also seen it through our bino-
culars from Thyangboche. We realized that at this

altitude it might well spell the difference between success and failure. The rock itself, smooth and almost holdless, might have been an interesting Sunday afternoon problem to a group of expert rock climbers in the Lake District but here it was a barrier beyond our feeble strength to overcome. I could see no way of turning it on the steep rock bluff on the west, but fortunately another possibility of tackling it still remained. On its east side was another great cornice, and running up the full forty feet of the step was a narrow crack between the cornice and the rock. Leaving Tenzing to belay me as best he could, I jammed my way into this crack, then kicking backwards with my crampons I sank their spikes deep into the frozen snow behind me and levered myself off the ground. Taking advantage of every little rock hold and all the force of knee, shoulder and arms I could muster, I literally cramponed backwards up the crack, with a fervent prayer that the cornice would remain attached to the rock. Despite the considerable effort involved, my progress although slow was steady, and as Tenzing paid out the rope I inched my way upwards until I could finally reach over the top of the rock and drag myself out of the crack on to a wide ledge. For a few moments I lay regain-

ing my breath and for the first time really felt the fierce determination that nothing now could stop us reaching the top. I took a firm stance on the ledge and signalled to Tenzing to come to top. As I heaved hard on the rope Tenzing wriggled his way up the crack and finally collapsed exhausted at the top like a giant fish when it has been hauled from the sea after a terrible struggle.

I checked both our oxygen sets and roughly calculated our flow rates. Everything seemed to be going well. Probably owing to the strain imposed on him by the trouble with his oxygen set, Tenzing had been moving rather slowly but he was climbing safely, and this was the major consideration. His only comment on my enquiring of his condition was to smile and wave along the ridge. We were going so well at 3 litres per minute that I was determined now, if necessary, to cut down our flow rate to 2 litres per minute if the extra endurance was required.

The ridge continued as befoe. Giant cornices on right, steep rock slopes on the left. I went on cutting steps on the narrow strip of snow. The ridge curved away to the right and we had no idea where the top was. As I cut around the back of one hump, another higher would swing into view.

Time was passing and the ridge seemed never-ending. In one place, where the angle of the ridge had eased off, I tried cramponing without cutting steps, hoping this would save time, but I quickly realized that our margin of safety on these steep slopes at this altitude was too small, so I went on step cutting. I was beginning to tire a little now. I had been cutting steps continuously for two hours, and Tenzing, too, was moving very slowly. As I chipped steps around still another corner, I wondered rather dully just how long we could keep it up. Our original zest had now quite gone and it was turning more into a grim struggle. I then realized that the ridge ahead, instead of still monotonously rising, now dropped sharply away, and far below I could see the North Col and the Rongbuk glacier. I looked upwards to see a narrow snow ridge running up to a snowy summit. A few more ~~whacks~~ of the ice-axe in the firm snow and we stood on top.

My initial feelings were of relief—relief that there were no more steps to cut, no more ridges to traverse and no more humps to tantalize us with hopes of success. I looked at Tenzing and in spite of the balaclava, goggles and oxygen mask all encrusted with long icicles that concealed his face.

there was no disguising his infectious grin of pure delight as he looked all around him. We shook hands and then Tenzing threw his arms around my shoulders and we thumped each other on the back until we were almost breathless. It was 11.30 a.m. The ridge had taken us two and a half hours, but it seemed like a lifetime. I turned off the oxygen and removed my set. I had carried my camera, loaded with colour film, inside my short to keep it warm, so I now produced it and got Tenzing to pose on top for me, waving his axe on which was a string of flags—United Nations, British, Nepalese and Indian. Then I turned my attention to the great stretch of country lying below us in every direction.

NOTES

1. ADMIRAL OF THE OCEAN WIDE

This is the story of Columbus, the Genoese sailor, who discovered America when he had actually set out to discover India. The discovery of America is one of the greatest events in world's history. Columbus was not only a great discoverer, but also a great leader. Faced with the mutiny of his companions due to untold sufferings which they had all to undergo, another man would probably have lost heart. But Columbus persevered, and in the end overcame all difficulties. It is a tragedy of this great man's life, that having made one of the most momentous discoveries, having made Spain the leading nation of Europe by that discovery, he yet died in poverty, unsupported by his King.

quay: a landing-place for a ship.

Genoa: a port in north-Italy.

Pavia: chief town of the province of Lombardy in Italy.

beyond the sun-set: beyond the western horizon.

mariners: sailors.

Ferdinand: Ferdinand V of Spain married Isabella of Castile, and thus consolidated the Spanish power. He drove out the Moslems from Granada, their last stronghold in Spain, in 1492. In the same year Columbus discovered for him America.

Andalusia: one of the southern provinces of Spain.

fugitive: run-away.

prior: priest.

craft: boat.

Canary Islands: off the North-West coast of Africa.

uncharted: unmapped.

San Salvador: one of the group of islands known as the Bahamas.

Hispaniola: West Indies.

headway: progress.

Palos harbour: in South Spain.

Trinidad: one of the West Indies islands.

Orinoco: a river in Venezuela, which flows opposite Trinidad in the Atlantic.

2. SHAKESPEARE

Shakespeare is world's greatest dramatist. He lived in an age which was full of great men, yet by his genius and his writings he towered above every one of them. His plays are deservedly regarded as the finest gift of the English race to the culture of the world. It is surprising that this great man of genius received little or no education, and was not aware of his great destiny.

Middle Ages: period between ancient and modern times, beginning with the fall of Rome in A.D. 476 and ending with the invention of printing in A.D. 1450.

Renaissance: it began in 1450 and ended in 1600. This period saw the rise of new culture, revival

of Greek and Latin literature, and great discoveries of new lands.

poaching: stealing game.

antics: buffoonery.

two stories from Roman literature: Venus and Adonis and Rape of Lucrece.

mirror life: reflect life faithfully.

fanaticism: wild and extravagant notions or beliefs.

realistic: as in real life.

feudal times: these prevailed in Europe for nearly 500 years. The period started at the time of the fall of Charlemagne's empire. At the head of the feudal system was the king, who gave land grants to his subjects or vassals in return for military or other service and an oath of allegiance. Beneath the king was a group of nobles holding land grants from him directly, lesser nobles received grants in turn, but their services were given to overlords and not directly to the king; and so on down to the holder of a single field.

3. FROM SAIL TO STEAM

This lesson describes how from old ships which sailed over the seas with their long masts and sailsman ultimately with the help of steamships was able to make his journeys much more safely and quickly. The invention of the steamship like the railway engine is a revolutionary step in human progress, and marks a great landmark in

civilization. The story is told how from what small beginnings was this great triumph achieved.

coracle: a small boat.

galley: a low flat built vessel with sails and oars.

Phoenicians: lived on the sea-coast of Palestine, their chief towns being Sidon and Tyre. Phoenicians were great sailors and founded the city of Carthage in North Africa about 850 B.C.

Diaz: Bartholomew Diaz was the first European to round the Cape of Good Hope in 1486, thus opening route to India.

Vasco da Gama: Portuguese navigator reached India and back to Portugal rounding the Cape of Good Hope in 1498 as Diaz had done before.

fall of Carthage: Carthage was destroyed by the Romans in 146 B.C. after having been for several centuries the seat of a powerful kingdom.

Prince Henry: see note in '*Admiral of the Ocean Wide*'.

Magellan: 1470—1521, was a great Portuguese explorer who crossed Atlantic from Spain to Brazil, and was the first circumnavigator of the world.

Drake, Hawkins, Frobisher: great English sea-dogs during Elizabethan times.

Cook: Captain Cook, 1728—1779, was a great English explorer, who discovered many South Sea islands and circumnavigated New Zealand. He

was killed in a fight with the natives of West Australia.

Henry Seagrave: English motor-race expert

4. BHARAT MATA

Jawaharlal Nehru is not only India's greatest living statesman but he is also one of the greatest Indian writers of English. His *Autobiography* and other books bear the clear impress of a mind at once alert, keen, and alive to Indian and world issues. It is not only Pandit Nehru's unique contribution to international understanding to have placed India on the world map, but also to have taught Indians to judge issues from a wider angle. Pandit Nehru is a thoughtful writer whose style is the exact expression of his powerful brain. His love for India almost amounts to the passionate love for a woman, but it has no narrow exclusiveness about it. In the following extract from his *Discovery of India* we are told with what devotion Pandit Nehru approaches the question of his intense love for his motherland, and how this feeling differs from the feeling of others for their country.

monstrous: atrocious.

I came to her via the West: Nehru's first knowledge of India was through the writings of English writers.

Mohenjo-daro: in Sindh was the seat of an ancient civilization nearly 5000 years old. Its ruins have revealed an amazing wealth of ancient culture and life which had its parallel in the civilization of ancient Sumer in Mesopotamia.

mighty travellers from China: Chinese travellers like Fa Hien and Hieun Tsang.

Angkor: in Cambodia, Indo-China, is notable for the magnificent ruins of the Angkor Wat temple, said to be the most glorious example of Hindu art.

Borobudur: in Java is again another fine example of Hindu art. These temples are the greatest of their kind, and are a clear proof of Hindu and Buddhist culture and art spreading outside India.

Ajanta, Ellora, the Elephanta caves: these caves in Hyderabad State and near Bombay are noted for their fine frescoes done during the Gupta and later Hindu periods. In Ellora and Elephanta caves Hindu temples have been cut out of solid rocks.

Sarnath: near Banaras was the scene of Buddha's first sermon. It was here that Buddha first started his *Dharma-chakra*.

5. THE SCIENTIFIC OUTLOOK

Sir C. V. Raman is one of the most distinguished Indian scientists. For his researches in Physical Science he has been made a Fellow of the Royal Society of England and has also been awarded the Nobel Prize for Physics. The United States of America has conferred on him Franklin Medal, the highest scientific honour in its gift. Besides being an eminent scientist, he is also a very fluent speaker, and no one possesses the gift of making scientific subjects understood by the common layman as does Sir C. V. Raman.

formal treatises: systematically written books.

Rontgen's X-rays: Rontgen (1845–1923) was a German scientist who discovered the Rontgen's rays in 1895. These are capable of passing through the body, enabling a photograph of bones, etc. being taken on a sensitive plate.

Planck: (1858–1947) was another German scientist who for his scientific discoveries was awarded the Nobel Prize in 1918.

Archimedes: (287–212 B.C.) was a Greek mathematician and philosopher who discovered the principles of lever and specific gravity.

Eureka: 'I have found it.' (Gr.).

Nobel Prize. These prizes, founded by the will of Dr. Alfred Nobel (1833–96) are five, each worth about £8,000, and are awarded each year for the most important discovery or development in Physics, Chemistry, Physiology and Medicine, the most distinguished literary work, and the best effort towards the promotion of peace.

6. THE DOCTRINE OF THE SWORD

Mahatma Gandhi was not only a saint, philosopher, and political leader of outstanding eminence, but he was also a thinker and a writer. He became known to the world by his doctrine of Non-violence which he both preached and practised in a unique degree. His death in 1948 evoked world-wide grief, and his greatest monument is the winning of Indian Independence by non-violent and peaceful means.

fatally assaulted: in 1908 when Gandhiji was in South Africa, he was seriously assaulted by a Pathan. Gandhiji, however, refused to take any action against him, and the Pathan later became one of the staunchest followers of Gandhiji.

Boer War: was waged between the English and Dutch settlers (1899–1902) in South Africa. The British were in the beginning defeated by Generals Botha and Smuts, but later they won. During this war Gandhiji organized an ambulance corps.

Zulu Rebellion: this occurred in 1906, when the savage Zulus rose against their white masters. The rebellion was ruthlessly suppressed.

General Dyer: became notorious for his ordering the massacre of hundreds of Indians who had gathered in Jallianwala Bagh on April 13, 1919, to protest against Rowlatt Bill.

Newton: (1642–1727) was one of England's greatest scientists.

Wellington: (1769–1852) is chiefly remembered for having shared with the German General Blucher victory against Napoleon at Waterloo in 1815.

Sinn Féinism: revolutionary party in Ireland with De Valera at its head, which ultimately won freedom for Ireland.

7. THE GREAT UNKNOWN

Sir Walter Scott is not only England's greatest historical novelist but also a great poet and gentleman. When he was excelled by Byron as a poet he gave up poetry.

writing, and for a long time went on writing novel after novel without any body knowing who it was, whose novels they were reading with such delight. That is why Scott is called "The Great Unknown". Scott exercised a profound influence on historical novelists both in England and France, and it is difficult to imagine what the position of the historical novel in these countries would have been if Scott had not lived. But Scott was something more than a novelist, he was a great character, and his death cast a gloom all over England and Scotland.

flat: insipid, dull.

batrn: lad.

called to the Bar: became a barrister.

Byron: Lord Byron (1788—1824) was one of the greatest of English romantic poets. It was he whose popularity drove Scott from poetry to fiction.

'to find himself famous': Byron made this remark when he became suddenly popular after the publication of his poem 'Childe Harold'.

8. M. K. GANDHI

Mahatma Gandhi has more than any man in modern times moulded the thoughts and ideas of the Indian people. By his great example he put before them noble ideals of self-sacrifice and suffering which ultimately won for India her independence. Mahatma Gandhi was not merely a political leader or a social reformer. He was above all a teacher and a thinker, and there is no aspect of life over which he did not think and on which he did not speak or

write. India can ill afford to forget the ideals for which Mahatma Gandhi stood.

fast at Delhi: undertaken in 1924 to bring about Hindu-Muslim unity.

Puritan ideals: an austere life such as the Puritans in England at one time lived.

Beauty and Truth: compare Keats's words: 'Beauty is Truth, Truth Beauty'.

Socrates: (469–399 B.C.) distinguished Greek philosopher was noted for his loveable character and ugliness.

philanthropy: love of mankind.

9. AN EMPEROR'S BIRTHDAY

This piece is from the diary of Sir Thomas Roe, the English Ambassador, who came to the court of Emperor Jahangir and lived in India for some years. Sir Thomas Roe was a keen observer, and he has left an interesting account of the splendour of the Moghuls, their customs, and their life.

Asaf Khan: Chief Minister of Emperor Jahangir.

equipment: dress, etc.

conjured me: solemnly entreated or begged me.

the art of limning: the art of painting portraits.

in oil: pictures can be painted both in oil and water-colour. In the former colours are mixed with oils, and the picture is more lasting.

appurtenances: are objects which belong to a thing, in this case the golden plate on which the cup was carried and the cup's lid or cover.

knock my head against the ground: as a token of respect to the Emperor.

of a thousand humours: the word 'humour' means 'mood'; but here the phrase refers to the cracking of jokes as a result of excessive drink which made them merry.

10. THE ASCENT OF EVEREST

Sir Edmund Hillary along with Tenzing successfully climbed Mount Everest and achieved a feat unparalleled in mountaineering. The climbing of the summit required great energy, courage, and resourcefulness. Since 1921 no less than eleven major expeditions were led with a view to get to the top, but all failed. It was only on May 29, 1953 that of the party led by Sir John Hunt, Sir Edmund Hillary and Tenzing reached the top of Everest.

crystalline: clear and transparent.

Tenzing: Sherpa leader, who along with Sir Edmund Hillary reached the top.

Cwm: is an enclosed valley on the flank of a hill.

my own Newzealand Alps: Sir Edmund Hillary is a Newzealander, and gained experience in climbing there.

to belay: in mountaineering a wooden or iron spike is driven in the snow to which a piece of rope is tied or wound, and with its support the climber tries to climb up, specially where no proper foothold is available.

North Col: 'col' is a depression in a mountain chain; a pass.

Why was Shakespeare so great?

Besides = 3rd part

What has happened ⁱⁿ - 12th 13th

Give the summary of the scientific
text book.